

REMARKS**OVERVIEW**

Claims 1-8 and 11-47 are pending. Claims 21-34 which previously have been withdrawn from consideration are now canceled. Reconsideration is respectfully requested.

RESPONSES TO EXAMINER'S RESPONSES TO ARGUMENTS

Response to examiner's first argument - The examiner does not understand the differences between Jungers invention and a structured linear database. Jungers invention may be practiced within the context of a structured linear database, but a structured linear database cannot be practiced within the context of Jungers. The structured linear database invention is described as a transport data stream that is protocol agnostic. The structured linear database invention is also a data storage device contained within a transport stream, whereas Jungers requires the use of high level device operations to control communications between two or more devices, and disk operations to pack and unpack data packets to make them ready for use by an application. These high level actions are performed in Jungers invention just as they are in the common art, albeit with more efficiency. However, the structured linear database invention is practiced directly on the transport stream by counting pulses and interpreting the meaning of the data by applying the meaning contained in an overarching structure residing on the repeating, complex coded, transport stream. The data contained within a structured linear database transport stream, may be retrieved and interpreted by a structured linear database enabled device (i.e. a network interface card (NIC) designed to interpret a structured linear database transport stream), without employing the common art of higher level device operations. The examiner has not fully grasped that the present invention is a structured data transport stream that serves as a

storage device, and does not require the use of data packets as described in Jungers, and as commonly known in the art. It is possible to practice Jungers' invention within the context of a structured linear database; however it is not possible to practice the present invention within the context of Jungers. This is a subtle difference, but it is in fact novel and the basis of the present invention. The structured linear database invention provides for data storage within a transport stream without the use of a series of "segments" within the transport stream. In order to access information contained within a specific structured linear database one must have knowledge of the specific, repeating, complex code to receive the pulse train and demodulate information contained within the repeating transport stream acting as a data storage device.

Response to the examiner's second argument - Jungers has to buffer in order to process the message/segments. A structured linear database *does not* need to buffer data. A structured linear database enabled device only needs to understand the type of structured linear database it is receiving in the form of a repeating, complex coded pulse train. The enabled device finds the beginning of the pulse train, and uses information contained in the linear file allocation table to count pulses, in order to find the desired data stored in a specific time frame within the structured linear database transport stream. Jungers requires the use of high level device operations to control and establish communications between two or more devices, and further requires the packing and unpacking of data packets through the use of disk operations which mark and store data making it ready for use by an application, which results in a more efficient method as practiced in commonly used art for retrieving data segments, which reduce the memory and processing resources necessary to read data contained in the received data packets. These high level device operations are completely carried out within the NIC of a structured linear database enabled device. A structured linear database is clearly a data storage technology, which Jungers

is not, and provides a different methodology for retrieving data, than what is described in Jungers. In a structured linear database, the data is stored within the repeating, complex coded, transport stream, is retrieved directly from the transport stream, and can be manipulated within the transport stream. In the Jungers patent, data is retrieved from data packets delivered by a transport stream, and the extracted data is stored within buffers and/or a disk, albeit with more efficiency than other technologies.

Response to examiner's third argument - The examiner clearly does not understand what a structured linear database is. The durations in Chung's invention are not equivalent to pulse start and stop positions defined in the linear file allocation table. Chung's coding table is used for understanding the meaning of durations vs. specific symbols, and *is not* used for determining the structure and meaning of data contained within a repeating, complex coded transport stream.

ISSUES UNDER 35 U.S.C. § 112

Claims 35-47 have been rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. In particular, the examiner is unclear about where there is support for the limitation of "without separately packetizing the data" of claim 35, lines 7-8.

"Without separately packetizing" means without using multiple separate data packets. "Without separately packetizing" means the linear file allocation table and data in the data fields are contained within the same structured transmission without needing to be parsed into separate packets, such as TCP/IP data packets, etc. The structured linear database invention is described as a transport data stream that is protocol agnostic. The structured linear database invention is

also a data storage device contained within a transport stream. This limitation, is supported by the very nature of the invention, and throughout the Specification including in the third paragraph of the Summary of Invention, "The entire TM-UWB pulse train, which may contain ten to 60 million pulses, repeats every second, or on some other regular interval. By dividing the TM-UWB pulse train into pre-determined, recognizable segments containing four basic types of divisions: 1) a routing header division; 2) LFAT (Linear File Allocation Table) division; 3) data storage and transmission division(s); and 4) a Tailbit division, a structured linear database is formed." Note that the *pulse train* is divided, instead of there being separately packetization of data fields. The examiner has not fully grasped that the structured linear database of the present invention does not require the use of data packets, commonly known in the art as opposed to a structured transport stream. The structured linear database invention provides for data storage within a transport stream without the use of a series of "segments" within the transport stream.

ISSUES UNDER 35 U.S.C. § 102

Claims 6-8, 11-16, 35, 38-44 have been rejected under 35 U.S.C. §102(e) as being anticipated by Jungers.

The Examiner rejects claim 6, citing to col. 4, lines 20-25 of Jungers. Jungers is directed towards an efficient unpacking of data packets and does not specifically address what a structured linear database is. A structured linear database is a transport stream that can act as a data storage device because data is permanently, or on-demand, modulated onto a repeating, complex coded pulse train. Again the examiner does not appear to understand the basic difference between the structured linear database invention and Jungers. In line 20, Jungers speaks of "a logical grouping of data", and the "accompanying table" which can be used by an

individual set top model to process the packets in the data stream. A structured linear database includes in its transmission the linear file allocation table (accompanying table) necessary to understand the data contained within the ensuing transport stream. A structured linear database is not segmented into separate and distinct data packets. A structured linear database is integral to the transport stream, and not data stored in conventional forms of memory. A structured linear database depends on retrieving specific data at a specific time within an ultra wideband transport stream. A structured linear database applies meta definitions to specific "time frames" within an ultra wideband transport stream. Specific time offsets equate to modulated data that has a specific meaning, i.e. social security number, name, address, etc. Jungers requires the implementation of headers and directory information, whereas a structured linear database does not use these because the meta-information of the data is defined by time in which it is received within a repeating, complex coded pulse train. Jungers uses "segments" to send elements of data within a transport stream, and when these "segments" are reassembled they can be used together to form a database. Jungers requires a higher level element of data, such as an application or relational database, to make sense of data stored in disk blocks or segments on a disk drive that have been assembled from Jungers data packets. Without the context of conventional memory, Jungers is in fact not a database. A structured linear database provides for the actual definition and location of data within a transport stream, as part of the stream.

To make this explicitly clear, claim 6 explicitly requires the step of "writing a linear file allocation table giving the name of the field and location within a transmission at which the field contents start and stop." This limitation distinguishes over Jungers because of Junger's reliance on segments and higher level device operations as previously explained. Therefore, this rejection

should be withdrawn and the Examiner should find claim 6 allowable. As claims 7-8 and 11-16 depend from claim 6, the Examiner should find these claims allowable as well.

Claim 7 also has an independent reason for patentability. Claim 7 explicitly requires that "the transmission occurs using a time modulated ultra-wide band system." This limitation is simply not disclosed at all in Jungers. The Examiner cites to col. 4, lines 35-45, but that portion of Jungers does not disclose what the Examiner purports it to. Therefore, this rejection to claim 7 should also be withdrawn for this independent reason as well.

Claim 11 also has an independent reason for patentability in that Jungers does not disclose that data is "stored" on a transmission system. Jungers does disclose multiple transmissions of the same message in order to recover missed messages. The re-transmission of data is common in the art, and the difference is that Jungers, again, is not a data storage device. A structured linear database is a transport stream used as a data storage device because the basic, complex coded pulse train repeats all the time. The same data may be permanently modulated on this repeating structure, or new and different data may be modulated on this structure every time the structure repeats. This is a subtle difference, but is a highly significant and patentable difference. Claim 11 distinguishes over Jungers through the explicit language of "repeating the transmitting of the data from the master to the user at the location indicated in the linear file allocation table such that both the linear file allocation table and the data are stored on a transmission system." Again, this is the difference between retrieving data directly from the transport stream vs. conventional memory like Jungers. Jungers simply does not disclose that such data is ever "stored on a transmission system." Therefore, the rejections to claim 11 should be withdrawn for these additional reasons.

With respect to claim 13, there is an independent reason for patentability. In particular, claim 13 requires that "the transmitting is highly secure." Jungers does not disclose that the transmission is highly secure.

With respect to claim 35, Jungers is also deficient. Claim 35 explicitly requires "transmitting the data fields identified in the linear file allocation table without separately packetizing the data fields." The term "packetized" and the term "pre-packetized" should not be confused. "Without separately packetizing" means without using multiple separate data packets. "Without separately packetizing" means the linear file allocation table and data in the data fields are contained within the same structured transmission without needing to be parsed into separate packets, such as TCP/IP data packets, etc. The method of claim 35 is a transport data stream that is protocol agnostic. The structured linear database invention is also a data storage device contained within a transport stream, whereas Jungers requires the use of conventional memory and disk operations to retrieve stored and/or buffered data. This difference is critically important. Jungers, col. 3, line 3 states: "it is important to note that the data structure provided by the invention may be practiced within the context of any packetized information stream utilizing a layered approach to information delivery." The structured linear database method of claim 35 is practiced *without* regard to the use of conventional memory and associated high level device operations needed to pack and unpack data packets, and store and/or buffer data in order to make it ready for use by an application. Data contained within a structured linear database transport stream is retrieved and interpreted directly from a transport stream by a structured linear database enabled device (i.e. a NIC designed to interpret a structured linear database transport stream), without the use of higher level device operations as described in Jungers and practiced in commonly used art. The examiner has not fully grasped that the method of claim 35 does not

require the use of data packets, commonly known in the art vs. a structured transport stream. This may be a subtle difference, but it is a highly significant and patentable difference. For these reasons, this rejection to claim 35 should be withdrawn. As claims 36-47 depend from claim 35, it is respectfully submitted that these rejections should also be withdrawn.

With respect to claims 41, 43, and 47 there is an independent reason for patentability as Jungers does not disclose that transmission is performed using time modulated ultra wideband radio frequency transmissions. Therefore, it is respectfully requested that these rejections are also improper and should be withdrawn.

ISSUES UNDER 35 U.S.C. § 103

The Examiner has rejected claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,357,634 to Chung in view of U.S. Patent No. 5,719,555 to Zeytoonjian. These rejections are respectfully traversed.

With respect to claim 1, the examiner again does not appear to understand the structured linear database of the present invention. The stop and start positions described in the specification are pulse positions n , $n+1$, $n+2$, $n+3$, etc., where n is a marker from which to count pulses in order to determine fields of data. Chung and Zeytoonjian *do not* disclose such a method. Chung discusses an encoding methodology. Zeytoonjian describes a method of using pulse positions as control bits to describe pre-scripted messages, etc. Zeytoonjian's use of pre-scripted control bits is not unlike the use of a Rinx2 (Receiver Independent Exchange Format) which is a standard frame format developed by the Astronomical Institute of Bern for the easy exchange of GPS data collection, which is merely a standard message format. Neither Chung nor Zeytoonjian describe a repeating, complex coded transport stream that can be used as a data

storage device. Chung does speak about using his encoding methodology to encode data on a storage device such as magnetic tape, but the structured linear database invention teaches using a repeating, complex coded transport stream as a data storage mechanism.

Claim 1 explicitly requires "providing a linear file allocation table including a field name for one or more subdivisions of data and pulse start and end position information for each of the field names; providing a data portion which includes the data corresponding to each field in a predetermined position corresponding to the start and end position information in the file allocation table for each field; and associating the linear file allocation table and the data portion in a pulse position encoded transmission." Neither Chung nor Zeytoonjian alone or in combination disclose anything that could fairly be considered using the position of pulses in a transmission to form a transport stream that can be used as a method of providing "a structured linear database adapted for storage in a machine readable storage medium" of claim 1.

Therefore, this rejection should appropriately be withdrawn and the Examiner should find claim 1 allowable. As claims 2-5 depend from claim 1, it is respectfully submitted that the Examiner should now also find these claims allowable.

With respect to claim 2, there is an independent reason for patentability. In particular, Chung simply does not disclose "a routing header portion and a tailbit portion with the linear file allocation table and the data portion." In Chung, the routing header portion of Chung's invention refers to a symbol look-up table for his encoding methodology, not a linear file allocation table which describes the data that follows. Therefore this rejection to claim 2 should be withdrawn for this independent reason.

Claim 4 also has an independent reason for patentability. Claim 4 requires transmission over "a time modulated ultra-wide band system." Neither Chung and Zeytoonjian disclose

transmission over such a system. Therefore, this rejection should be withdrawn on that basis as well.

Claim 17 is a method claim directed towards providing universal data exchange. The Examiner recognizes that Chung does not explicitly disclose pulse start and end information. The duration information in Chung is not equivalent to a structured linear database's pulse start information. They are two completely different things. It is not obvious to one skilled in the art or of ordinary skill in the art at the time, to modify Chung's encoding to include start and stop positions, to define data types, data fields, etc. Therefore this rejection to claim 17 should be withdrawn. As claims 18-20 depend from claim 17, it is respectfully submitted that these rejections should be withdrawn as well.

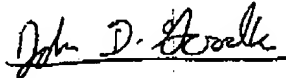
Claim 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jungers as applied to claim 35, and further in view of *Data and Computer Communications* by William Stallings, herein referred to as Stallings. As previously expressed, Jungers is deficient and does not disclose each and every element of claim 35, nor does any combination of Jungers and Stallings. Therefore, it respectfully submitted that this rejection should be withdrawn as well.

Claim 37 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jungers as applied to claim 35, and further in view of U.S. Patent No. 5,818,442 to Adamson. As previously expressed, Jungers is deficient and does not disclose each and every element of claim 35, nor does any combination of Jungers and Adamson. Therefore, it respectfully submitted that this rejection should be withdrawn as well.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



JOHN D. GOODHUE, Reg. No. 47,603
McKEE, VOORHEES & SEASE, P.L.C.
801 Grand Avenue, Suite 3200
Des Moines, Iowa 50309-2721
Phone No: (515) 288-3667
Fax No: (515) 288-1338
CUSTOMER NO: 22885

Attorneys of Record

-bj- -